DOCUMENT RESUME

ED 211 301 RC 013 107

AUTHOR	Black, Talbot, Ed.; Hutinger, Patricia, Ed.
TITLE	Cost Effective Delivery Strategies in Rural Areas: Programs for Young Handicapped Children. Vol. I. Making It Work in Rural Communities. A Rural Network Monograph.
INSTITUTION	Western Illinois Univ., Macomb. Coll. of Education.
SPONS AGENCY	Office of Special Education (ED), Washington, D.C.
PUB DATE	Sep 81
GRANT	G007801853
NOTE	49p.; The Handicapped Children's Early Education Program (HCEEP) Rural Network is an association of professionals representing educational programs for young handicapped children in rural communities.
AVAILABLE FROM	Rural Network, College of Education, Room 27, Horrabin Hall, Western Illinois University, Macomb, IL 61455 ($4.00).
EDRS PRICE	MF01/PC02 Plus Postage.
DESCRIPTORS	Agency Cooperation; Community Services; Coordination; *Cost Effectiveness; *Delivery Systems; *Disabilities; Early Childhood Education; Health Services; Home Programs; Home Visits; Parent Participation; *Program Costs; Program Descriptions; *Rural Areas; Rural Development; Rural Population; Special Education; Staff Utilization; *Young Children
IDENTIFIERS	Early Lifestyle Program; Macomb 0 to 3 Regional Project IL; Multi Agency Project for Pre Schoolers; Project Sunrise

ABSTRACT

Using a common format outlining program settings, agencies, children/families served, staff, services, delivery strategies, and program costs, descriptions of four cost-effective rural service delivery programs for young handicapped children provide evidence that good rural programs are affordable. The Early Lifestyle Program at King's Daughters' School (Columbia, Tennessee) serves 12 birth to 4 year olds in a Home-based Infant Model focusing on parent training at a cost per child/per year of $1,642 and 16 moderately to severely mentally retarded children (ages 4 to 8) in 2 Preschool Model Classrooms emphasizing social and emotional skills at a cost per child/per year of $3,627. The Multi-Agency Project for Pre-Schoolers is a home- and community-based intervention program based in Logan, Utah with replication sites in Idaho, Nevada, Wyoming, Arizona, and New Mexico. Operating year round, the Macomb 0-3 Regional Project (Illinois) provides home visits, sharing centers, water activities, and parent study topics for children from birth to age 3 at a recurring cost per child/per year of $2,237. Operating from Eastern Montana College (Billings) at a projected cost per child/per year of $625, Project Sunrise offers diagnostic and screening services, home visits, community education, and child advocacy services. (NEC)

ED211301

MAKING IT WORK IN RURAL COMMUNITIES

Cost Effective Delivery Strategies in Rural Areas:

Programs for Young Handicapped Children

Vol. 1

U.S. DEPARTMENT OF EDUCATION
NATIONAL INSTITUTE OF EDUCATION
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

☐ This document has been reproduced as received from the person or organization originating it.

☑ Minor changes have been made to improve reproduction quality.

• Points of view or opinions stated in this document do not necessarily represent official NIE position or policy.

"PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY

Patricia Hutinger

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)."

A Rural Network Monograph

Edited by Talbot Black and Patricia Hutinger

RC013107

hceep Rural
Network

About the Rural Network Monographs

The State of the Art Task Force has as its responsibility the collection and distribution of information related to effective strategies for delivering services to rural young handicapped children and families. During 1980-81, a series of monographs was undertaken by contributors across the country under the editorial direction of Patricia Hutinger. Contents of the first set of monographs (see back cover) reflects the most pressing needs of rural HCEEP projects. Other topics are under consideration by members of the Rural Network and will be forthcoming.

This monograph was developed pursuant to grant G007801853 from the U.S. Department of Education. Those who undertake such projects under government sponsorship are encouraged to express freely their judgement in professional and technical matters. Points of view or opinions do not, therefore, necessarily represent official Department of Education position or policy.

OSE Project Officer,
Sandra Hazen

June 1981
The Rural Network
Western Illinois University Press

A RURAL NETWORK MONOGRAPH

COST EFFECTIVE DELIVERY STRATEGIES IN RURAL AREAS: PROGRAMS FOR YOUNG HANDICAPPED CHILDREN

VOL. I

Introduction by Talbot Black

by
Glendon Casto
Pamela J. Frakes
Patricia Hutinger
Debra Tolfa
Kay Walker

Editors: Talbot Black
Patricia Hutinger

September, 1981

hceep Rural Network

ABOUT THE AUTHORS

Talbot Black, Associate Director of Technical Assistance Development System

Since its inception in 1971, Black has worked at TADS, and his professional interests include early education programs for the handicapped and technical assistance for support systems.
Address: TADS, Suite 500 - NCNB Plaza, Chapel Hill, North Carolina 27514

Glendon Casto, Professor, Psychology, and Associate Director, Exceptional Child Center at Utah State University

Casto's background includes work in the areas of child psychology and early intervention.
Address: Exceptional Child Center, Utah State University, Logan, Utah 84322

Pamela J. Frakes, Project Coordinator of Early Lifestyle Project

As a classroom teacher of handicapped children and adults in both public and private schools, Frakes has been professionally involved in rural education. Through her role as administrator and supervisor in instruction and personnel, she has been involved in curriculum development.
Address: King's Daughters' School, 412 West 9th Street, Columbia, Tennessee 38401

Patricia Hutinger, Professor, Early Childhood, and Project Director, Outreach: Macomb 0-3 Regional Project

As a former Headstart and kindgarten teacher, Hutinger, an educational psychologist, has worked extensively at the college level teaching early childhood education courses and serves as director of projects funded by the federal Office of Special Education.
Address: Outreach: Macomb 0-3 Regional Project, 27 Horrabin Hall, Western Illinois University, Macomb, Illinois 61455

Debra Tolfa, Project Director, Bureau of Indian Affairs Project, and Project Coordinator, MAPPS

A former elementary education and special education teacher experienced in all handicapping conditions, Tolfa's present positions involve coordinating project workshops and giving technical assistance to programs in rural areas.
Address: Multi-Agency Project for Pre-Schoolers, Exceptional Child Center, Utah State University, Logan, Utah 84322

Kay Walker, Former Project Coordinator, Project Sunrise

Besides teaching at Eastern Montana College, Walker has classroom and special education experience at the preschool through elementary grade level in rural and inner city settings. She is now pursuing a doctoral degree at Utah State University.
Address: 426 West 2nd South, Logan, Utah 84322

CONTENTS

I. INTRODUCTION 1

II. EARLY LIFESTYLE PROGRAM
KING'S DAUGHTERS' SCHOOL, COLUMBIA, TENNESSEE
Pamela J. Frakes 3

Rural Setting 3
Agency Description. 3
Children/Families Served. 4
Staff 4
Program Description - Home-Based Infant Model . 5
Program Description - Classroom-Based Model . . 6
Costs 8
Conclusion. 10

III. MULTI-AGENCY PROJECT FOR PRE-SCHOOLERS
EXCEPTIONAL CHILD CENTER, UTAH STATE UNIVERSITY
LOGAN, UTAH - Glendon Casto & Debra Tolfa. 11

Rural Setting 11
Agency Description. 11
Children/Families Served. 11
Staff 11
Program Description 12
Program Benefits. 14
Costs 17

IV. THE MACOMB 0-3 REGIONAL PROJECT
WESTERN ILLINOIS UNIVERSITY, MACOMB, ILLINOIS
Patricia L. Hutinger 19

Rural Setting 19
Agency Description. 19
Children/Families Served. 19
Staff 20
Delivery Strategies 20
Curriculum Materials. 23
Community Services Provided 24
Unique Features of the Macomb 0-3 Project . . . 24
Basic Assumptions and Theoretical Base. 25
Benefits. 25
Discussion of Cost Effectiveness 26

CONTENTS

V. PROJECT SUNRISE
EASTERN MONTANA COLLEGE, BILLINGS, MONTANA
Kay Walker 28

Rural Setting 28
The Project's Agency and Nature of Families Served. 28
Project Staff 29
Program Description 30
Paraprofessional Training Program 31
Project Cost. 32
Discussion of Cost Effectiveness. 33

Appendix 36

INTRODUCTION

Talbot Black

What benefits will it provide? What will it cost? Can we afford it? Whenever a school board, or a superintendent, or the head of some other public or private agency is considering whether to support a program aimed at a needed community service, these questions are basic. The effects of the austere economic climate of the 1980's has increasing impact on all aspects of public education and human services. Early education for the handicapped in rural communities is no exception.

Those of us providing rural education programs for young handicapped children must respond readily to meet the challenge of these questions if we are to continue serving children and families. More important, we must meet that challenge if we are to convince more rural communities to reach out and serve the thousands of young handicapped children and at-risk children that now fill the ranks of the nonserved. We need evidence/examples of rural service programs that are effective and an indication of what costs are reasonable, and we need a lot of them.

The major purpose of this publication is to provide some examples of cost effective rural service delivery programs for young handicapped children. It represents a beginning in the process of collecting the evidence we need to show that good rural programs are affordable. It is hoped that subsequent volumes will be forthcoming, and that over time we can document useful examples to draw some general conclusions about what it costs to serve young handicapped children in our communities, and what the key factors that make programs cost effective are.

The program descriptions that follow have been written according to a common outline and format. The writers were not asked to provide sophisticated analyses of cost benefits, but to simply describe their programs and benefits and to present their budgets. We are presented with a cost-per-child figure and then are left to judge if that cost is reasonable in the light of the services and benefits provided, and/or in comparison with the cost-per-child of regular special education. That judgement is left to you, the reader.

You can use this publication in several ways. You can compare these program descriptions and budgets with your own program for likenesses and differences. You can contact one of these programs for more information. You can use these examples to show others the benefits of early intervention and the ways it can be provided. You can even write a description of your own program following the outline and format used here (see the Appendix for the detailed outline used).

If you wish to describe your own program in this way and submit it for consideration in a forthcoming volume of the HCEEP Rural Network's monograph series, contact:

The Macomb O-3 Regional Project
Dr. Patricia L. Hutinger
27 Horrabin Hall
Western Illinois University
Macomb, Illinois 61455

Young handicapped children can be served effectively and affordably in rural communities. Let us continue to meet the challenge of demonstrating that fact to those who can make a difference.

EARLY LIFESTYLE PROGRAM
KING'S DAUGHTERS' SCHOOL
COLUMBIA, TENNESSEE

Pamela J. Frakes

Rural Setting

The Early Lifestyle Program (ELP) is located at the King's Daughters' School in Columbia, Tennessee. Columbia is the largest town in Maury County, with a total county population of approximately 50,000. Columbia serves as the headquarters for the South Central Tennessee Development District, a 13-county area of rural Middle Tennessee and is also the location for the regional offices of the State Departments of Education, Human Services, Mental Health and Public Health. The services provided by ELP are made available to communities in six counties of the district, Maury and five surrounding counties.

Middle Tennessee is best described geographically as having flat to rolling terrain. The vast majority of the industry in the catchment area is concentrated in Maury County and is predominately agrichemical in nature. The remaining five counties are agricultural with only scattered industrial locations. The area served is connected by a network of major state and county roads leading to Columbia. The King's Daughters' School is centrally located within 45 minutes driving time of each county seat and within 1½ hours of any location within the catchment area.

Agency Description

ELP functions under a private, non-profit facility owned and operated by the King's Daughters and Sons of Maury County. This organization is part of an international order devoted to community service. The King's Daughters' School (KDS) of Maury County has a 25 year history of serving mentally retarded persons. Over the years, the ways in which this service has manifested itself have changed as the field of mental retardation has progressed.

The KDS Education Center and five off-campus group homes are located in a residential section of downtown Columbia. Day classes and vocational training, approved by the Tennessee Department of Education, are provided to a school age population of 5-21 year olds. Adult clients attend the licensed Work Activity Center. Since a number of those persons served in these two programs are boarders, residential, nursing and food services are also provided and licensed by the State Departments of Agriculture and Mental Health/Mental Retardation.

Children/Families Served

The Early Lifestyle Program was established in keeping with The King's Daughters' School philosophy of serving handicapped persons and attempting to provide programs for them as needs arise and change. Operation of ELP expands the array of services available to handicapped persons in rural Middle Tennessee. The program has two distinct components. The Home-based Infant Model serves 12 handicapped, delayed and high-risk birth to four year olds. The two Preschool Model Classrooms are designed to serve up to 16 moderately to severely mentally retarded children between the ages of four to eight. All children enrolled in ELP services reside at home with their families. Most live with their natural parents; however, three of the classroom children live with foster parents selected by the Department of Human Services. Families served represent a cross section of the population in terms of age, socio-economic status, and other factors.

Staff

In addition to the 11 ELP project workers, five KDS staff members spend 3-20% time on project activities. The executive director of KDS serves as ELP project director. As chief administrator, he spends 13% of his time integrating ELP programs into the existing KDS organization. He is also accountable for the financial administration and management of the physical arrangements. The administrative assistant in charge of development for KDS assists the project in its publicity/public awareness activities and serves as a resource in the search for continuation funding. This requires 10% of his time. The project coordinator is full-time for the project and is responsible for coordinating most of the activities designed to achieve project objectives. These activities involve supervising project staff; carrying out evaluation plans and preparing reports; coordinating services with other agencies; determining child/family eligibility and coordinating project services for children and parents; identifying staff development needs and securing resources to meet those needs; coordinating public and professional awareness activities; training staff from other agencies; and seeking funds to continue direct services.

Other full time project workers include the secretary, two classroom teachers, two classroom aides, two van drivers, two van attendants, and a home trainer. The secretary maintains project records and files and provides necessary clerical services. She also maintains subsidiary financial records. The teachers are responsible for the operation of the two preschool classrooms and daily parent training for 9½ months. They assess individual child needs, prepare IEP's, provide instruction in group and 1:1 arrangements and monitor child progress. They also participate in child gain summary and reporting and in the training of staff from other agencies and students from area colleges and universities. The classroom aides assist teachers in all classroom activities. They assist in monitoring child progress and alternate as supplementary drivers when necessary. The drivers transport children and, from time to time, their parents to and from the preschool classrooms and common pick-up points within the catchment area. Van attendants assist the drivers by supervising the children being transported

and alternate as supplementary drivers as needed. The home trainer is the key person for the Home-based Infant Model. She is responsible for child assessment and IEP development, for preparing instructional plans, for the monitoring of child progress, for parent training and for mobilizing existing community resources to meet child/family needs not directly addressed by the project.

The KDS nurse, speech therapist and bookkeeper spend part of their time on project activities. The nurse (3%) supervises the administration of any medications taken by the children in the classrooms while at school. She serves as a liasion in the interpretation of medical evaluations and the provision of ongoing preventative health care. The speech therapist (20%) assesses speech and language needs of children enrolled in preschool classrooms. She participates with teachers and parents in the development of IEP's and provides individual and small group speech therapy. The bookkeeper (5%) serves as a resource to the secretary in the development and implementation of the project's bookkeeping system. The bookkeeper also prepares payroll for project staff.

Program Description - Home-Based Infant Model

The Home-based Infant Model operates on the belief that parents are a child's first teachers and change agents. Thus the model is designed to enable parents to become both effective and efficient in maximizing their child's potential. Evidence of eligibility for services includes a medical and/or developmental problem statement documenting that the child is functioning below chronological age or is at-risk of experiencing delays because of a potential handicapping condition. Upon referral, the home trainer assists the family in identifying the child's strengths and needs. As a team, which may also include other professionals involved in providing supplemental services for child/family, they develop an individual service plan for the child and family. The home trainer prepares instructional programs for parents to carry out with their child in areas of language, motor, cognitive, social and self-help development. Year-round weekly home visits are conducted to monitor child progress and to provide parent training. Often the home trainer must identify and mobilize local community resources or those in Nashville, 45 miles away, to meet additional assessed or expressed child/family needs.

One home trainer serves up to 12 families, utiiizing criterion referenced assessment measures and various curriculum resources specifically designed for infants and young children. The Early Learning Accomplishment Profile, the Receptive-Expressive Emergent Language Scale and the Alpern Boll Developmental Profile are the criterion referenced measures utilized to assess present levels of performance and to identify individual program objectives. The curriculum design allows for the integration and use of many varied curriculum materials. It is the home trainer's responsibility to break these down into identifiable steps via task analysis and to utilize procedures for modifying the steps, their size or sequence in situations where a child's progress is slow. Each curriculum can be translated into the project's existing systems for data collection and monitoring of child progress. Curriculum materials utilized include: the Ski*Hi Model, Guide to Early Developmental Training, Brigance Diagnostic Inventory

of Early Development, Peabody Mobility Program for the Blind Student, Portage Guide to Early Education, and the Carolina Curriculum for Handicapped Infants.

Involving parents in the teaching and monitoring of the developmental skills increases their effectiveness in facilitating the development of their child. Through the weekly child/family training, parents become competent and comfortable with designated interaction strategies, behavior shaping techniques, reinforcement and cue delivery, child performance observation and data collection. As the parents' effectiveness increases, they assume increasing direct responsibility for their child's instructional program. Parent progress is monitored by the home trainer utilizing the Parent Proficiency Scale developed by the Norfolk Early Education for Handicapped Children Project (NEEHCP).

Once initial assessments are completed and individual program/service plans are established, specific times and days are identified for conducting the weekly home visits. Initially during routine sessions, the home trainer conducts a 15-20 minute timed sample of the child's response to prescribed programs. This is done in order to measure progress towards the instructional objectives on which the family has been working all week. Then the mother demonstrates how she has been conducting the training programs. This gives the home trainer an opportunity to give the mother corrective feedback and to measure her increasing effectiveness. Parents who have demonstrated proficiency in conducting the instructional programs, perform the timed sample themselves. Each child generally works on four programs each week. Individual programs are replaced with new ones as mastery is achieved. Review of daily performance data collected by the parent and assignment of objectives for the coming week are the last items on the home visit agenda. Assignments may involve continuing programs utilizing the same format as the previous week. More difficult steps may be introduced, or entirely new program(s) may be introduced depending upon the child's performance. In some instances, a program may be considered too difficult at that point in time and has to be broken down into finer steps. Whenever programs are changed, the home trainer introduces them to the child while demonstrating to the mother the manner in which she should conduct them. The home trainer determines the mother's understanding of the new program by giving her several supervised opportunities to practice it before concluding the home visit. The home trainer sees three families each day, four days out of the week. The fifth day is spent charting child progress data, preparing new instructional programs and coordinating child and family services with other agencies.

This home-based approach to rural service delivery utilizing parents as teachers and using existing community resources is very economical. The approach is especially appropriate for agencies inhibited by lack of finances for space, specialized staff, transportation and food service costs normally associated with center-based programs.

Program Description - Classroom-Based Model

Children approaching the age of three and four begin acquiring peer interaction skills. The successful mastery of appropriate social

skills becomes necessary in play and ultimately in school and work. It seems appropriate, therefore, to begin to group young handicapped children at this age to facilitate social/emotional development. This has been made possible through state and federal legislation mandating the free and appropriate education for all handicapped from four to 21 years old (in Tennessee from 3 years, if deaf).

The model preschool classrooms operated by the Early Lifestyle Program incorporate the "Individuals-In-Groups" model of instruction. The "Individuals-In-Groups" curriculum design and materials are based on the premise that it is possible to provide normative group classroom experiences. At the same time, individual needs can be met. This is a precision teaching approach to instruction developed and validated by the Norfolk Early Education for Handicapped Children at Old Dominion University. The Norfolk Project demonstrates the feasibility and effectiveness of providing individualized instruction in group settings for young moderately to severely mentally retarded four to eight year olds. The ELP classrooms are demonstrating this model to local school systems responsible for serving this school age population.

Prior to enrollment, parents and classroom staff establish plans of action which include instructional goals and services to be provided. Upon enrollment children undergo a 30-day behavioral observation and skill assessment period. Utilizing the "Individuals-In-Groups" assessment, specific strengths and weaknesses are identified in areas of receptive and expressive language, fine and gross motor development, preacademic and self-help skills. Specific skills selected for inclusion in the assessment are those normally performed on the two to four year developmental level. Performance criteria is based on rates of response which have been standardized with population of typical three, four and five year olds. Assessment results are summarized and used to develop annual goals and short term instructional objectives for each child. Parents serve as a vital resource in the assessment process and in IEP development.

Each child receives daily 1:1 training in the individually selected tasks (pinpoints) within an instructional framework which utilizes monthly themes or units of study. Individual pinpoints are also incorporated into the eight daily group activities which correspond to the current theme as well. Varying the content and materials of 1:1 instruction and group activities with the theme heightens the interest level of both child and teacher. This practice also provides the child with opportunities to generalize learned skills to a variety of situations. Incorporating 1:1's into group activities increases instructional time directed toward teaching objectives without increased cost or teacher time.

In fact, by doing so, pupil progress doubles; this is very important for young handicapped children. After one year in the program, children enrolled in ELP classrooms achieved 90% of their annual goals. Post-testing with assessment measures indicated additional mastery of skills not targeted for training on IEP's. Performance gains were made in at least half of the skill deficits identified on the initial assessment but not specified as annual goals. These vicarious gains provide additional support for group instruction as children learn

new skills from each other and by exposure to new tasks in group activities.

The significant gains made by enrolled children are also attributed to the daily monitoring of child progress. The "Individuals-In-Groups" model employs a non-discriminatory system based on rate of learning and generalized proficiency as opposed to simple acquisition of skills. The teacher and aide monitor child progress on a daily basis, changing targeted skills whenever criterion is reached, or modifying the curriculum when progress is slow or absent. Procedures are included for weekly reviews, for calculating monthly learning and for making predictive learning statements.

This precision approach to classroom management and instruction is complimented by various supplemental services. Ongoing preventative health care is provided by The King's Daughters' School nurse. Daily speech therapy is provided on an individual and small group basis by the school's speech therapist. Transportation is arranged and provided via common pick-up points within the six county catchment area. Hot nutritious lunches are prepared and provided daily by the school's cafeteria.

Training to enable parents to conduct nightly home teaching is available through classroom participation, group parent meetings and/or individual parent conferences. Class and home activities are continually coordinated. Staff send daily instructional programs home with each child. Each morning parents return performance data collected during 20-30 minute home teaching activities. With parental permission, annual census data, IEP's and progress reports are shared with the local school system in which each child resides. This is in preparation for his/her ultimate enrollment there.

ELP classrooms conform to a regular school year of 9½-10 months. Since each classroom is staffed by one teacher and one aide, the model is easily adopted by public school systems with classrooms similarly staffed. Project personnel are available to provide replication training and technical assistance to systems and agencies desiring to initiate similar programs. To date ELP has three replication sites in Tennessee and one in Kentucky. The Early Lifestyle Program also serves as a training site for practicum students in nursing and for student teachers from Columbia State Community College and Vanderbilt's George Peabody College for Teachers.

Costs

Summary and analysis of personnel time and other project expenses have enabled ELP staff to separate its direct service and demonstration costs. The direct service figures reported here are based on ELP's second year of operation as a demonstration model. These direct service costs are further broken down to represent those of the Home-based Infant Program and the two Preschool Classrooms.

Personnel time spent towards the implementation of project activities ranges from 3% to 100% for 16 staff members. Time spent on

direct services only varies with each position from 25% to 100%. Combined time spent in direct service totals 75% of project time. Thirty-two percent of the administrative time spent by the KDS executive director, administrative assistant and bookkeeper is devoted to direct service. One hundred percent of the time spent by the KDS speech therapist and nurse went toward direct service. Half of the expense for administrative and speech therapy time was donated. All nursing time was donated.

Home-Based Infant Program

	Federal	Non-Federal	Total
Personnel (Salaries & Wages)	$11,980.00	$ 236.00	$12,216.00
Fringe Benefits	797.00	16.00	850.00
Travel	2,267.00	------	2,267.00
Materials and Supplies	1,476.00	------	1,476.00
Contractual Services	--------	------	--------
Communications (telephone, postage)	99.00	------	99.00
Overhead	42.00	2,418.00	2,460.00
Other: Printing	145.00	------	145.00
Consultant	185.00	------	185.00
TOTAL:	$16,991.00	$2,707.00	$19,698.00
Cost per child/per year	$ 1,416.00	$ 226.00	$ 1,642.00

Fourteen percent of the direct service operating costs of the Infant Program were donated by KDS - 2% of the personnel costs and fringe benefits; 98% of the overhead costs which included the cost of space and the use of the copy machines.

Preschool Model Classrooms (2)

	Federal	Non-Federal	Total
Personnel (Salaries & Wages)	$39,811.00	$1,951.00	$41,762.00
Fringe Benefits	2,647.00	130.00	2,777.00
Travel	4,292.00	------	4,292.00
Materials and Supplies	1,060.00	------	1,060.00
Contractual Services	500.00	------	500.00
Communications (telephone, postage)	197.00	------	197.00
Overhead	85.00	4,833.00	4,918.00
Other: Printing	334.00	------	334.00
Consultant	370.00	------	370.00
Food Services	---------	1,819.00	1,819.00
TOTAL:	$49,296.00	$8,733.00	$58,029.00
Cost per child/per year	$ 3,081.00	$ 546.00	$ 3,627.00

Fifteen percent of the direct service operating costs of the Preschool Classroom Program was donated by KDS: 5% of the personnel costs and fringe benefits, 98% of the overhead costs, and 100% of the food services. The two KDS vans used to transport children were provided by the Knights of Columbus. Playground facilities were made available to classroom children by a neighboring day care service and time was spent each day (weather permitting) in integrated play with four and five year olds.

Conclusion

The cost data indicates the efficiency and effectiveness of the home-based infant model and the preschool model classrooms. In the home-based model the parents are taught skills to be effective in developing their child's full potential. Beginning with assessment and training the parents progress to carrying out the individual service plans developed for their child by the child development specialist, with home visitor supervision. The preschool classroom model concentrates on developing the four to eight year olds' social and emotional skills through group training. Assessment assures proper grouping, and daily monitoring of the child progress ensures development of individual children's skills.

For more information regarding the Early Lifestyle Program, contact:

Pam Frakes, Project Coordinator
Early Lifestyle Program
The King's Daughters' School
412 West Ninth Street
Columbia, Tennessee 38401.

Multi-Agency Project for Pre-Schoolers
Exceptional Child Center
Utah State University
Logan, Utah

Glendon Casto
Debra Tolfa

Rural Setting

The Multi-Agency Project for Pre-Schoolers (MAPPS) is a home- and community-based (ages three to five) intervention program for handicapped children in rural, remote areas. The project is based in Logan, Utah, but has replication sites in rural areas in Utah, Idaho, Nevada, Wyoming, Arizona, and New Mexico. The project is designed for areas where pre-school intervention populations are small and where specialized intervention personnel are scarce. The remote areas served by the project are characterized by great distances between sites, many gravel and dirt highways, and many geographic barriers. These areas are geographically remote from major population centers.

Agency Description

MAPPS' main office is at the Exceptional Child Center at Utah State University. The Exceptional Child Center is part of a network of approximately 45 University Affiliated Facilities for the Developmentally Disabled across the nation. The Center operates from an educational intervention model and stresses improving services to pre-school handicapped children in rural areas as part of its mission. The MAPPS project complements the role of the Exceptional Child Center.

Children/Families Served

Approximately 60 children are served by the project each year. These 60 children range in age from birth to five and encompass every handicapping condition. Included in the intervention population are significant numbers of native American and Chicano children. The families of the children served are, for the most part, rural and are larger than average families.

Staff

The staff of the project consists of a one-half time project director who is a psychologist, a full-time special educator, a half-time specialist in communicative disorders, a half-time physical therapist, and one or more graduate students in Psychology and Special Education. The staff operates from a transdisciplinary model and spends much inservice training time on the transdisciplinary approach to intervention.

In addition to regular staff, the project has available specialists who deliver services to pre-school children through the Exceptional Child Center's Clinical Services. Included here are medical personnel, nutrition personnel, physical and occupational therapists, communicative disorders personnel, social workers, and others.

Program Description

Delivery Strategy

The MAPPS program utilizes: (1) the parents of pre-school handicapped children (ages birth to three) as intervention agents by providing them with a detailed and specific curriculum to work with their young handicapped children in the home, by training the parents in the curriculum's use, and by providing weekly monitoring, and (2) existing pre-school and community day care services to mainstream young handicapped children (ages three to five) by providing curriculum materials, by training parents and teachers in their use, and by monitoring progress throughout the year.

Curriculum and Monitoring System

The heart of the intervention program is the Curriculum and Monitoring System (CAMS) developed by the project in five developmental areas: (1) Receptive Language, (2) Expressive Language, (3) Motor Development, (4) Self-Help Development, and (5) Social-Emotional Development.

The curriculum packages which were developed address 15 objectives in receptive language, 41 objectives in expressive language, 98 objectives in motor development, 90 objectives in self-help skills, and 40 objectives in social-emotional development.

The complete CAMS system includes:

1. A manual which provides an overview of the CAMS model and explains the procedures for using the five curriculum programs.
2. Placement tests designed to place each child at the appropriate level in each program.
3. A slide-tape presentation which introduces the curriculum programs, teaches their use, and explains the simple system for scoring the child's responses.
4. Five sequenced curriculum programs with detailed teaching instructions so that they may be utilized by persons with varied backgrounds.

Each of the curriculum programs is printed in easy-to-use block style design and bound in a notebook. This format was selected to allow photocopying of individual pages for use by the parents or trainers working directly with each child.

Assessment and Development of IEP's

Children in the intervention population are referred by parents, public health nurses, physicians, and local service agencies. They are first screened using the Denver Developmental Screening Test, and those scoring in the lowest ten percent are included in the project. This group is then given the CAMS criterion referenced placement tests in the five skill areas. At least one parent of each child and, in the case of children falling in the center-based three to five age range, the pre-school teacher participate in the assessment process. The parents and teachers also participate in the development of an individualized program for each child. The individual education program is based on skills from the five CAMS programs.

Parental and Teacher Participation

Teachers and/or parents are trained to make effective use of the intervention program and are provided with a manual which includes the general information necessary to use the CAMS programs, as well as information specific to each program. For example, it was found that in certain motor and self-help areas, photographs depicting specific positions were necessary for more complete instruction. These photos are included in the manual.

Following the training period, parents of children in the home-based (birth to three) program are monitored through a home visit by the program staff or a center visit by parents on a bi-monthly basis. Parents also participate in monthly workshops. These workshops address topics such as growth and development in handicapped children, managing children's behavior, and counseling and supportive services. In addition, program monitors contact parents weekly by telephone to check on the child's progress and to answer any questions. Parents conduct programs with their children on a daily basis.

Parents and teachers of the children in the center-based program (ages three to five) are assigned responsibility for certain program areas by the I.E.P. team. The project staff monitors each classroom program while the teacher takes responsibility for monitoring the parent's interventions.

Project Objectives

The project objectives are:

1. During a nine-month intervention period, handicapped children placed in the infant stimulation program (birth to three) will increase their standard score by 20% in the area of their greatest handicap.
2. During a nine-month intervention period, handicapped children placed in existing community pre-school programs (three to five) will increase their standard score by 20% in the area of their greatest handicap.

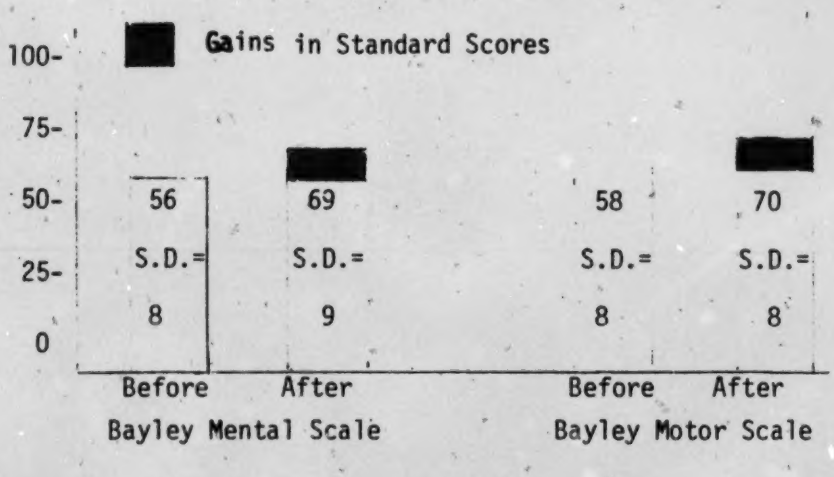
3. The parents of pre-school handicapped children will demonstrate satisfaction with the project by utilizing the programs to teach their child and through their responses on an attitudinal questionnaire.

Evidence of intervention effectiveness which resulted in approval by the Joint Dissemination Review Panel in June 1980 was based on an evaluation which focused upon all three objectives.

Program Benefits

During 1974-77, the MAPPS project provided services to approximately 150 handicapped children ages birth to five and their parents. The children exhibited a variety of handicapping conditions. Both standardized and criterion referenced test data were collected on a pre- and post-test basis. All tests were administered by licensed psychologists or certified educational diagnosticians hired by the project. The tests administered included the CAMS criterion referenced tests in Receptive and Expressive Languages, Motor Development, Social-Emotional Development, and Self-Help Development. In addition, a group of standardized tests were administered which included the Bayley Scales of Infant Development (Bayley, 1969) for children birth to three, and the Peabody Picture Vocabulary Test (Dunn, 1965), the Assessment of Children's Language Comprehension (Foster, Gidden, & Stark, 1974), and the Visual Motor Integration Scale (Beery, 1969) for children ages three to five.

Figure 1. Results of Intervention Program for 60 Children Ages Birth to Three on Bayley Scales

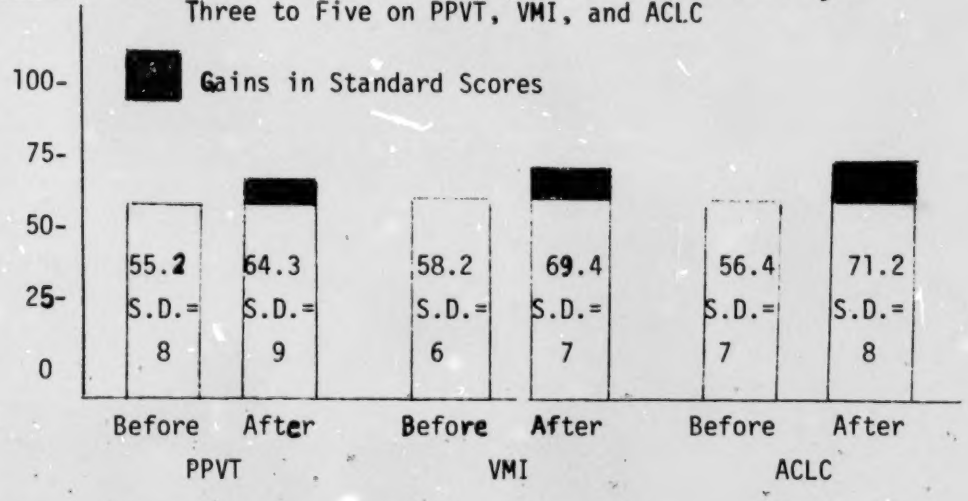


From the above figure, it may be seen that the 60 children ages birth to three had a mean standard score of 56 on the Bayley Mental Scales and a mean standard score of 58 on the Bayley Motor Scales before intervention. After intervention they had a mean standard score of

69 on the Bayley Mental Scales and a mean standard score of 70 on the Bayley Motor Scales. The pre- and post-mean gains in standard scores were tested using the t-test for correlated means and found to be significant at the .01 level. Compared to past performance, children improved in their area of greatest handicap by 21-28% on the average.

From Figure 2 it may be seen that the children in the intervention group had mean standard scores of 55 on the PPVT, 58 on the VMI, and 56 on the ACLC, before intervention. Following intervention, they had standard scores of 64 on the PPVT, 69 on the VMI, and 71 on the ACLC.

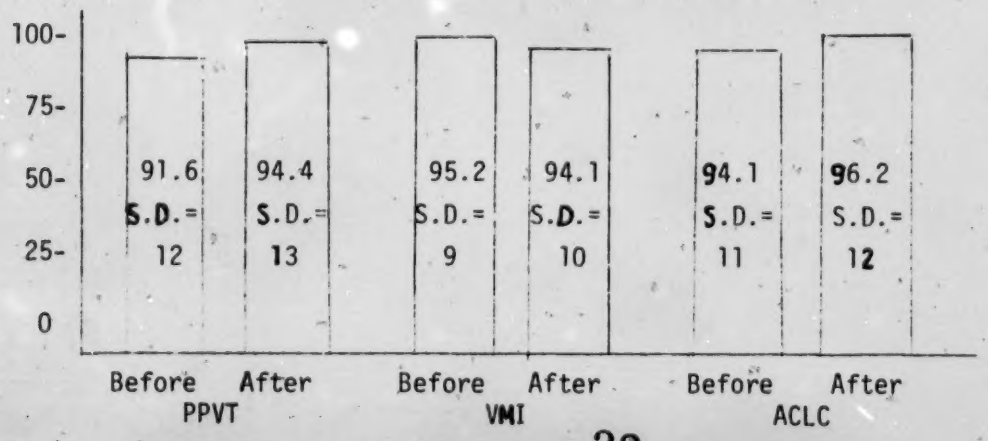
Figure 2. Results of Intervention Program for 60 Children Ages Three to Five on PPVT, VMI, and ACLC



The differences between pre- and post-mean standard scores were tested using the t-test for correlated means and found to be significant at the .05 level. The average score per child increased 22 percent.

Figure 3 presents data for a comparison group of 160 normal children from the pre-school classrooms in which the handicapped population were mainstreamed. These data are presented to demonstrate

Figure 3. Results for a Comparison Group of 160 Children Ages Three to Five on PPVT, VMI, and ACLC



that although the comparison group gained in two instances during the intervention period, their mean standard scores did not change significantly. The average score per child increased only 1.5%. The educational significance of these results is best exemplified by results from the CAMS criterion tests. The children in the intervention group increased their skill levels substantially in receptive and expressive language, motor, and social-emotional areas, while the comparison group made non-significant increases.

From Figures 1, 2, and 3 it may be seen that parents were able to improve their child's performance by 20-28% over a nine-month period. A questionnaire was sent to parents served by the project to obtain their evaluation and determine any additional benefits the project may have provided.

Their responses follow:

	Dissatisfied	Satisfied	Very Satisfied
1. Percentages indicating various degrees of satisfaction with the interventions provided by the MAPPS project.	0	8	92
2. Percentages indicating various degrees of satisfaction with being provided sufficient training and materials to carry out educational interventions at home.	0	6	94

3. Family members reporting participation in the program:

Mother	- 79%
Father	- 79%
Siblings	- 70%
Grandparents	- 17%

4. Parents' responses to specific objectives obtained through participation in the program:

(a)	Knowledge of my child's problem and needs.	71%
(b)	Better feelings of acceptance of my child.	38%
(c)	Better knowledge of my child's abilities.	67%
(d)	Better understanding of my child's behavior.	54%
(e)	Specific skills for working with my child.	92%
(f)	Knowledge of services available for my child.	67%
(g)	Better ability to cope emotionally with my child.	42%

In addition to these benefits of the project, during the 1976-77 school year, approximately 200 individuals were trained to use the CAMS programs. This number included both professional and paraprofessional personnel associated with a variety of disciplines.

Costs

The costs for the project during one intervention year are reproduced below:

Personnel	$49,196*
Fringe Benefits	11,250
Travel	7,800
Materials & Supplies	2,400
Contractual Services	3,000
Communications	1,200
Cost per child/per year	1,639
Indirect Costs	23,535**

In addition to budget items, in-kind support is delivered to the project in several areas. Utah State University provides project staff members with office space and access to services provided by the Exceptional Child Center. These services take the form of volunteer (in addition to paid) consultants in specialty areas, i.e. speech and language development, physical and occupational therapy, and other related areas.

During one project year, high school students were trained by project staff to deliver direct services to children whose parents were unable to deliver such services. Circumstances included parents working, time limitations, too many other children, and other distractions.

Designing intervention strategies for pre-school handicapped children in rural areas is particularly difficult because of a lack of trained personnel. The CAMS system represents a partial answer to this problem. We have demonstrated that parents can be trained to deliver interventions to handicapped children ages birth to three in receptive and expressive language, motor, self-help, and social-emotional areas; and that handicapped children ages three to five can be mainstreamed into existing community programs if individualized programs are provided for them. Since the system is completely exportable, is usable by parents, is judged by them to be helpful, is demonstratable of modest intervention effectiveness, and is comparatively inexpensive, dissemination on a wider basis has been undertaken. Walker Publishing Company of New York City now disseminates the CAMS programs.

---

*Personnel includes 3 FTE's, broken into one-half and three-fourths time.

**Indirect costs are 60% of salary and wages on campus and 30% off campus.

For further information contact:

Multi-Agency Project for Pre-Schoolers
Exceptional Child Center
Utah State University
Logan, Utah 84321
(801)657-2250

THE MACOMB 0-3 REGIONAL PROJECT
WESTERN ILLINOIS UNIVERSITY
MACOMB, ILLINOIS

Patricia L. Hutinger

Since 1975 the Macomb 0-3 Project has provided home-based remediation/education services to a wide range of handicapped children from birth to age three and to their families. The Project, a rural infant delivery service model, provides home visits and sharing centers (which incorporate child activities, parent study topics, and water activities).

Rural Setting

The model was developed in three rural counties where services are scattered geographically. Macomb, the location of the Project, is 80 miles from comprehensive medical services located in larger cities. Macomb has a population of approximately 23,000; the surrounding towns range from villages of 500 to towns of 10,000. The West-Central Illinois area is primarily agricultural and many families live on isolated farms.

Agency Description

During the three years of model development, the Project was housed in the College of Education at Western Illinois University, but at the same time strong community ties were established with a number of local agencies. Presently the Project services are continued by the McDonough County Rehabilitation Center (MCRC) and the Fulton County Community Workshop (FCCW). Replication sites are housed in a variety of agencies, including schools; however, this paper will deal with the Project's continuation sites at the MCRC and the FCCW. The 0-3 services at these two agencies, funded by a combination of local funds and Developmental Disabilities monies, are a part of community services to developmentally disabled persons from birth through adulthood.

Children/Families Served

Since the project is based on the assumption that parents are primary change-agents for their own child, the families are served at the same time children are receiving services. Children range in age from birth to three years of age and exhibit a variety of handicaps, including gross physical or motor handicaps, sensory impairment, marked intellectual lag, lack of age-appropriate speech

and language development and serious emotional problems. Multiple handicaps include Cerebral Palsy and Downs Syndrome. Children who are classified as "high risk" are also served. High risk conditions include jaundice at birth, low birth weight, maternal malnutrition or illness, and severe environmental deprivation with demonstrated delay. The wide range of handicapping conditions served reflect the variance to be found in rural areas. The approach is non-categorical so that infants are not labeled with a specific handicap.

Staff

Since support staff in rural areas are both scarce and expensive, the model was developed to use available staff effectively and to maximize limited medical and support systems. A nondifferentiated staffing pattern was developed. The pivotal staff member is the Child Development Specialist (CDS). Both nondifferentiated staffing and a description of the CDS are contained in the section titled "Unique Features."

One CDS can handle a caseload of 12 to 18 children, depending upon the children's handicapping conditions and the geographic area where they live. Present caseload in each county is approximately 25, or a total of 50 children and families receiving services. The CDS's hold college degrees with majors in special education or early childhood. Appropriate training in early childhood (for those with a special education background) or special education (for those with an early childhood background) is provided through inservice, university coursework, and on-the-job training. Two CDS's (1.5 FTE) are employed at MCRC while one CDS (1.0 FTE) is employed at FCCW.

A physical therapist works with the project for approximately eight hours per week. During the model development years an occupational therapist was hired on a consulting basis (two days a month) to work with cases needing motoric evaluation and prescription. Speech and language diagnostics are scheduled at the University. Graduate students in Speech are assigned to the project each semester. Presently graduate students in nutrition have been working with the CDS in the MCRC. Specialists in communities are identified and used for consultation when specific problems occur. Currently the Special Education Cooperative is providing diagnostic/consultant services in the sharing center format.

Other staff members include a social worker, six hours a week, as well as a secretary and the agency director who spend about 6% of their time on the project. Funding for staff salaries comes from two different budgets at MCRC, while FCCW uses monies from four budgets.

Delivery Strategies

Project components include home visits, sharing centers, water activities (WADE) and parent study topics. Underlying the curricular

activities is a developmental framework based upon such Piagetian concepts of child development as child autonomy, independent exploration of materials, play activities, and social interaction. Necessary adaptations for treatment of various handicapping conditions and aspects of language and speech development are also included. The behavior of the child is closely observed, with accompanying use of records of frequency of occurrence of desired behaviors.

The Project operates 12 months a year. Visits are scheduled every two weeks during July and August to allow for staff vacations. Referrals, which come to the Project through the medical profession, hospitals, Children and Family Services, Public Health, school personnel, mental health centers, and community citizens, are screened using the Steps-Up screening procedure. All children who are referred to the Project receive screening and diagnostic services. A child who demonstrates little delay is served on a "monitor" basis with the CDS observing him/her in the bi-weekly sharing centers. All referrals are channeled through the public schools' Special Education Cooperative referral system, a procedure which insures that the superintendent of schools in the appropriate district is notified of the existence of a pre-school handicapped child in his/her district who will need services at three. Services are mandated to three-year olds in Illinois.

Procedures for ensuring medical stabilization of the child are considered to be prerequisites to education and remediation. Techniques for providing medical stabilization services include securing existing medical records and making personal contacts with physicians and medical personnel who have examined the child. Help in securing further medical treatment, if needed, is given depending on the child's needs and the family's needs. Transportation to medically related clinics and appointments is also provided when needed by families. After a referral is processed and the initial visit made to a home, staff members concentrate on further diagnosis, prescription, and inoculations, as well as hearing, speech and language evaluations where appropriate.

As part of the diagnostic service to the family, techniques for providing family support are also employed. Support services to families include referrals for immediate needs such as food, clothing, and specific financial aid, if necessary. Also included is counseling if it is needed by families.

Within four weeks after children are accepted in the Project, each child begins a battery of two measures, the Alpern-Boll Developmental Profile (Alpern-Boll) and the Bzoch-League Receptive and Expressive Emergent Language Scale (REEL). Both are usually completed in two or three home visits (approximately two or three weeks). The Alpern-Boll is a developmental scale which measures physical development, self-help, social, academic growth, and communication. The REEL measures receptive and expressive language. In addition, evaluation by an occupational therapist or physical therapist is also provided within the first month of services to the child.

Each child in the Project receives a program individually designed for him/her in terms of the child's specific handicapping condition. Five steps are involved in choosing activities (or individualized educational programs) for the children. First, the CDS observes the child carefully, using an observational checklist for informal assessment of the child during the first two or three visits. The staff uses input from professionals' evaluations such as from the physical therapist. Second, formal assessment measures (Alpern-Boll and REEL) are administered by the CDS. Results are used to confirm or reject observation and to demonstrate to parents the child's functioning level in several areas of development. Third, parents' concerns for their child are assessed in informal interviews. It is assumed that meeting parents' needs is of paramount importance for a child's satisfactory development. Fourth, after a minimum of four weeks of observation and interaction with child and parent, bi-yearly goals for the child covering the assessed areas of needs are developed by the CDS, in consultation with the parents. These goals must be mutually agreeable to both CDS and parents. Fifth, objectives for the bi-yearly goals are derived from the Core Curriculum which was developed and refined by the Project staff over a three year period. Activities for each visit are planned, using the objectives in the bi-yearly goals. For each visit, a target behavior is determined by the CDS and parent. Specific activities are provided for the parent and child to work on each day and the child's progress is charted by the parent where possible.

Home visits, which take place on a weekly basis, are conducted by CDS's and are approximately one hour in length. During the home visit, the CDS implements an appropriate set of activities for the child and parents which reflect goals both the parents and CDS have determined. In addition, the CDS interacts with the parents regarding the child's behavior, problems, family news, and information from the Project. The CDS is a careful observer of the child and parents and keeps records of her observation of child behavior. Individualized activities, depending upon the child's particular handicapping condition, are carefully planned for home visits. The parents are included in home visit activities. The CDS models effective ways to work with the child using both objects and social interaction. The CDS and primary caretakers interact together as a team in their work with the child.

In addition to home visits, parents participate in sharing centers which meet every two weeks in area churches, community buildings, and/or parents' homes. Sharing centers, which evolved from the concept of a parent-cooperative nursery school, function as a transition between home and center-based programs, in addition to providing a form of mainstreaming or least restrictive environment for handicapped children, since "typical" children (siblings or invited participants) are involved in sharing centers. Involvement in sharing centers is determined by geographic location. Sharing center groups consist of six or seven families and, once established, maintain constant membership unless a family leaves the area. Activities planned for children at sharing centers include those designed to enhance the areas of gross motor, fine motor, language and speech, sensory awareness, self-help skills,

socialization, and physical therapy if indicated. During the sharing centers parents participate in activities with their own child and other children, gain new skills, and gain new information during the study topic time. Sharing centers are operated by two CDS's. After parents have been in the Project at least four months, they begin to plan and take responsibility for an activity and the materials necessary for implementation at the sharing centers. Activities for the sharing centers are planned using the bi-yearly goals for each Project child involved in the sharing centers. Materials and activities are provided that can be used in a number of ways by children, depending upon the child's developmental stage and handicapping condition.

Water activities, scheduled at the local Y.M.C.A pools, alternate with sharing centers on a bi-weekly schedule. The Water Activites for Developmental Enhancement (WADE) component was originally developed for physically handicapped children, but has been used successfully with a wide range of children. Activities used in WADE reflect the Core Curriculum.

Parent study topics incorporated into the sharing centers include Parent Effectiveness Training (P.E.T.), child management techniques, language development, and nutrition. Special consultants are brought into the group as parents express need for them. Sometimes parent study groups are held independently of the sharing centers; some of the most unique and successful are toy workshops where parents construct useful, sturdy toys.

The Project operates on the basic assumption that the involvement, cooperation, and enthusiasm of the parent(s) or primary caretaker in Project activities is essential. Parental cooperation is achieved in a variety of ways including scheduling and planning home visits, recording child progress, charting specific child activities, participating in planning and implementing sharing centers, and serving on the Advisory Council. All parents served by the Project must agree to participate in home visits. Approximately 75% of them also participate in sharing centers and WADE.

Curriculum Materials

The Project's Core Curriculum, which is used in home visits, sharing centers, and WADE, was developed through the application of four sets of related principles: general principles of child growth and development; selected Piagetian principles related to the sensorimotor and pre-operational periods; and a group of principles related to language development; while the fourth included specific therapy techniques for handicapping conditions (e.g., physical therapy for the child who has Cerebral Palsy). Curricular assumptions include the following:

1. The handicapped or delayed child passes through stages of development similar to the nonhandicapped child, but at a slower rate.
2. There is a wide range of individual differences among handicapped children.
3. Activities which lead to acquisition of new skills capitalize on extension of the child's existing behaviors, providing maximum opportunity for exploring strategies which use modeling of desired behaviors as well as imitative play activities.
4. Materials consist of both related and unfamiliar materials to initiate and maintain desired changes in behavior.
5. Emphasis is on motor activities since the child is in the sensorimotor period during the first two years of life.
6. The child must be actively involved in activities which are individually adapted to accommodate specific handicaps.

The curriculum is organized around Core Curriculum goals grouped in the following developmental areas: cognitive, language, self-help, gross motor, fine motor, social and sensory. Core Curriculum goals address the development of schema for dealing with common objects and situations, object permanence, locomotion, imitation, sensory exploration, development of syntax and phonology, in addition to self-help behaviors such as self-feeding, drinking from a cup, and helping dress one's self. The organizational pattern of the Core Curriculum is simple and easy to use. It is arranged according to the areas listed above, and presents goals, description of the behaviors described by the goals, and suggested activities for eliciting or developing the behavior. The goals are arranged in a developmental sequence. New goals and activities can be added as needed. Special curricular goals which apply to children with unique problems are also included. Project curriculum is outlined in papers on home visits, the Core Curriculum, and in a book about sharing centers.

Community Services Provided

The Project screens any children who are referred and works closely with Public Health nurses in screening newborns. In addition, the Project works closely with a number of community agencies, trains babysitters for the McDonough County Youth Bureau, and provides information to requesting service groups.

Unique Features of the Macomb 0-3 Project

Sharing centers offer an effective vehicle for parent involvement; furthermore they provide a form of least restrictive environment for the young child. Project families and families with nonhandicapped children participate. Since nonhandicapped children

are incorporated into the group, there is an opportunity for Project children to watch or interact with these "typical" children. Activities planned for sharing centers include those to enhance the curricular areas of the Core Curriculum.

The nondifferentiated staffing pattern reflects a solution to the scarcity of professional services in rural communities. Delivery of services in a rural area calls for a staff of sensitive, flexible, adaptable individuals who can function in a nondifferentiated staffing pattern. The Child Development Specialists are trained to serve a variety of functions including case manager. Besides working closely with parents and child, the CDS's are trained to recognize the need for and obtain input from physical therapists, occupational therapists, psychologists, and/or speech personnel, as well as physicians. Where feasible, the CDS implements the professionals' suggestions under their indirect supervision. Staff members are able to plan and implement all aspects of the Project, with the exception of analysis of child gain data which is done by an outside consultant.

The Project uses a 24 foot mobile unit, the Baby Buggy (the citizen's band radio "handle"). During model development years, costs were approximately 22 cents per mile. Increasing gasoline costs have reduced the mobile unit range and usage. It is used when a neutral territory for a home-visit is needed and can be used for mini-sharing centers. The unit has been modified so that it is an activity area on wheels. Sometimes it is used for diagnostic teams to travel to families.

Basic Assumptions and Theoretical Base

The Macomb 0-3 Model was developed on a set of theoretical assumptions related to developmental theory (using a Piagetian base), which are noted in the sections on "Curriculum and Materials" and "Delivery Strategies." In addition, related theory in psycholinguistics was integrated into the curriculum. Specific data related to strategies for remediation with various handicapping conditions (i.e., physical therapy, medial intervention) were incorporated. Basic assumptions also included the need for involvement of parents, for coordination and cooperation among professionals, the nature of rural services and the nature of programs for infants (as compared to programs for older children).

Benefits

The major claims of effectiveness of the Project, which were used in a successful Joint Dissemination and Review Panel submission approved in June, 1980 are:

1. To provide an effective educational/remediation program for optimal development of handicapped infants in rural areas.
2. To help parents who live in rural areas acquire skills and knowledge to become more effective in dealing with their child.

Analysis of the data indicate that Project children made statistically significant progress in physical development ($p=.001$), an important area of development for the infant. Physical development includes both gross and fine motor behavior such as grasping, reaching, crawling, and walking. All are important for the child's further manipulation and exploration of objects and people in the environment. The children also progressed in self-help skills ($p=.004$), including learning to feed themselves with fingers or utensils, to put on or help put on simple items of clothing, and to make other needs known. They achieved significantly in areas related to language and communication, particularly in receptive language (understanding communication from others) ($p=.005$). Progress noted in these areas is critical for later development of behaviors needed to adapt to the world and to experience a higher quality of life.

Parent satisfaction data demonstrates that parents reported gaining skills during their involvement with Project activities. In addition to child progress scores, Project activities have resulted in positive gains as reported by parents served in the Project. After three months participation, a parent satisfaction questionnaire was administered, then was administered at six-month intervals by independent trained observers. Third year data on 41 families, for total N of 54, (13 families were measured twice) are reported here. On items which measured the parents' perceptions of their own behavior, 74% reported gains in knowledge of their child's problems and needs, while 70% reported a better understanding of the importance of working with the child. Additionally, 72% reported greater knowledge of services available to their child. Parents also reported a greater knowledge of techniques for working with their child (80%), and greater skills in working with their child (72%). Of the parents interviewed during the third year, 85% reported that their child had greater motor abilities and 59% reported language gains. It seems clear that parents regarded the gains their children made in positive terms. Of the 41 families responding during the third year, 94% reported overall satisfaction with the Project services. The other 6% did not respond to the item.

Data on the children in the Project continuation sites (rehabilitation facilities in two counties) indicate that results in programs operated by agencies different from the original model development site are similar to those reported in the present paper. Continuation site parents also report satisfaction with the Project. The sites serve similar children and carry on activities in all MACOMB 0-3 REGIONAL PROJECT components.

Discussion of Cost Effectiveness

Since support staff such as physical therapists, occupational therapists, psychologists, or speech personnel are both expensive and difficult to recruit and retain, the model was developed to use a nondifferentiated staffing pattern which can be maintained. Contact with physicians is also maintained during the development of programs for individual children. Staff members participate in interagency councils in the community, provide services to community groups, and work closely with public school personnel to achieve cooperation among

agencies. Effective coordination itself leads to more effective expenditures. Sharing centers, for example, provide programming for mildly involved children who do not need other professional services. Working directly with parents so that they become more skillful in working with their children reduces expenditures for professionals.

Costs of the Macomb 0-3 Project

	Installation	Subsequent Years (Recurring)
Personnel (Salaries and Wages)	$23,400	$23,400
TOTAL FTE 1.5		
Fringe Benefits 12%	2,808	2,808
Travel	1,800	1,800
Materials and Supplies	2,500	300
Contractual Services	5,400	5,000
Communications (telephone, postage)	250	250
Indirect Costs (overhead) Not applicable to sites	----	----
Other	----	----
TOTAL	$36,158*	$33,558*
Cost per child/per year	$ 2,411	$ 2,237

*There are variances in costs depending on inflation, sponsoring agency, amount of travel involved in specific geographic areas, and number of children.

More detailed information about the Project can be obtained by writing to the following address:

Patricia Hutinger, Director
OUTREACH: Macomb 0-3 Regional Project
Room 27 Horrabin Hall
Western Illinois University
Macomb, Illinois 61455

A number of different materials are available from the Project including a series of Baby Buggy Papers, a sharing center book, and media materials.

PROJECT SUNRISE
EASTERN MONTANA COLLEGE
BILLINGS, MONTANA

Kay Walker

Rural Setting

Fondly known as the "Big Sky Country," Montana represents one of the last frontiers of the "wild, wild west." The wide open spaces, beautiful landscape and sparse population make Montana a highly popular vacation choice. However, it is those same thousands of acres of "wide open spaces" that hamper the delivery of services to young handicapped children. Montana's 774,000 residents make up a state population which is only slightly smaller than the population of Baltimore, Maryland. Rather than being located in one urban area, though, Montana residents are scattered over 145,587 square miles, an area nearly 15 times the size of the entire state of Maryland. With only two cities in the state boasting a population of more than 50,000 residents and no cities with a population in excess of 80,000, it is not unusual for families to be 50 miles or more from the nearest services. Even then, only minimal services may be available through itinerant mental and public health personnel. A familiar occurence is for inclement winter and spring weather to isolate communities for days at a time, further impairing the delivery of services. Unpaved and/or poorly maintained roads constitute extra hazards.

Additional problems exist in meeting the needs of Montana's pre-school handicapped population. It is common for communities to be without nursery schools or day care facilities. The vast majority of communities offer only a six week kindergarten program in the spring, while some communities offer no kindergarten program at all. Parents may find they have to drive several miles simply to enable their child to play with age peers. As a result, parents often have no way of comparing their child's development with that of other children. A mildly handicapping condition which might be minimized with early intervention may remain undetected until public education begins at age six.

The Project's Agency and Nature of Families Served

Eastern Montana College is located in Billings, Montana, the state's largest metropolitan area. Through its Institute for Habilitative Services, bachelor's and master's degrees are offered to prepare special educators and rehabilitation counselors for professional certification. In addition, the college houses the Montana Center for Handicapped Children, a diagnostic and treatment center serving children statewide.

For a period of three years, the Institute for Habilitative Services was responsible for developing Project Sunrise, a home-based rural model demonstration program funded through the Handicapped Children's Early Education Program. This program provided direct intervention services to 87 children birth through six years of age at two sites, one in Billings and one 128 miles away in Lewistown. Children exhibiting any handicapping condition or considered to be "at risk" of being identified as handicapped were eligible for services. Direct services were provided by trained paraprofessional home visitors. The model demonstration activities were completed June 30, 1980. During 1980-81, Sunrise was funded by the Office of Special Education as a first year Outreach Project.

Project Staff

The project director and project coordinator comprise the administrative component of the model. The director at .10 FTE is the designated fund controller in a position which holds fiscal responsibility for the overall project. The coordinator at 1.0 FTE is directly responsible for program development and implementation, staff development and budget recommendations.

The early childhood special education specialist at 1.0 FTE is responsible for the training and supervision of the paraprofessional home visitors. The early childhood special education specialist also has direct responsibility for 1) assuring appropriate program planning for the child; 2) scheduling the interdisciplinary evaluation; 3) conducting Child Study Team meetings; 4) writing the Individualized Education Plan (IEP); and 5) coordinating services when several agencies are involved.

The position of paraprofessional home visitor ranges from .25 FTE to .50 FTE. The home visitor provides direct service to program families on a needs basis. Services may be on a weekly, bi-weekly, or monthly schedule. The primary focus of the home visitor is the parents. Through the home visitor, the parents are taught how to implement educational programs designed to meet the needs of their handicapped child.

Non-paid support staff through the Montana Center for Handicapped Children (MCHC) include an occupational therapist, physical therapist, pediatrician, psychologist, audiologist, speech pathologist, nutritionist and social worker. In addition, specialists on staff with the project participating school districts function as consultants.

As a demonstration project, two secretaries at 1.5 FTE were maintained. Presently one secretary at 1.0 FTE is on staff. Throughout the demonstration and outreach phase of the project, a graduate assistant at .25 FTE has been maintained.

Program Description

Children are considered eligible for Project Sunrise Services if they meet one of the following criteria:

1. The diagnosis of a handicapping condition by a doctor or an interdisciplinary team of trained evaluation personnel (i.e. The Montana Center for Handicapped Children or local school district support personnel).
2. Screening results which indicate a need for further evaluation, including:
   a) "questionable" or "abnormal" results on The Denver Developmental Screening Test (DDST).
   b) "rescreen" or evaluate results from The Comprehensive Identification Process (CIP).
3. A majority decision by the Project Sunrise staff. (For example, a child whose behavior problems presently place him at risk of being labeled emotionally disturbed at the time of school entry would be considered by the staff for possible program inclusion.)

Direct services are provided by a paraprofessional home visitor who makes weekly, bi-weekly or monthly visits to the family. During these visits, information is collected on the previous training session activities and new teaching activities are introduced. The home visitor focuses on changing parent-child interaction patterns and on teaching the parent how to conduct the teaching activities.

Each home visitor works under the supervision of an early childhood special education specialist. This specialist makes periodic visits to the family with the home visitor to assess child progress.

The parents are responsible for implementing the teaching activities daily with their own child. They may also be responsible for keeping daily data on the child's performance. Project Sunrise views the parents as the primary teachers and earliest educators of their own youngster. The services provided recognize that parents often need various parenting skills instead of formal teaching skills.

Every family who receives direct services has a written Family Education Plan (FEP). The purpose of the FEP is to help the home visitor identify and meet the educational and affective needs of the parents and siblings. Sometimes this means providing and discussing appropriate reading material. At other times, it may involve setting up observation activities that aid the parents in becoming more objective observers of their own child. Especially in the class of mildly handicapped or recently identified children, it may mean helping the parents work through the normal grieving process in order to seek or accept help for their special child. Home visitors make these activities a part of their home visits.

Project Sunrise provides the following educational services to the community:

1. Agency Liaison - identifying and coordinating services to young children when several agencies are involved in providing services.
2. Community Education - providing workshops and lectures on early childhood special education to Head Starts, public schools, private nursery schools or other professionals.
3. Continuing Education - offering home visitor training through the Continuing Education Department at Eastern Montana College.
4. Child Advocacy - helping to provide parents and others with information about the rights of young handicapped children, as well as to urge the development of needed services.

Paraprofessional Training Program

Paraprofessional home visitors who will be implementing the Sunrise Model participate in an intensive pre-service and in-service training program. Six competency areas have been identified as being essential to the systematic implementation of the model. Competency areas are 1) The Project Sunrise Model; 2) Identification and Screening; 3) Assessment; 4) Family Education Plan; 5) Child Program Planning and Implementation; and 6) Legal Rights.

An orientation meeting is held between the home visitor trainee and the assigned early childhood special education specialist. At this time, the orientation assignments are made and the training materials delivered. These materials include copies of the motor, self-help and social-emotional portions of the Curriculum Assessment and Monitoring System (CAMS) and the pre-academic and communication portions of the Uniform Performance and Assessment System (UPAS), the programmed text, Understanding the Project Sunrise Model, and the preschool observation packet. The trainee is instructed to complete the programmed text prior to the pre-service workshop and to be prepared to take a post-test. Trainees are also requested to become familiar with the CAMS and UPAS materials. In addition, arrangements are made for the trainee to spend 2½ hours on three separate days observing in a local preschool. On one day, preferably the first, the assigned specialist accompanies the trainee to enhance the observation experience and to observe the trainee's ability to interact with young children and adults. If possible, the trainee also is given the opportunity to observe the supervisor administer the screening and assessment instruments and may accompany the supervisor on the actual home visit.

The second training segment is the pre-service training workshop which is a three-day session held at the demonstration site at Eastern Montana College in Billings. The purposes of this workshop

are to train the home visitors in the implementation of the model, to help establish a support network among the home visitors, and to give the trainees a better understanding of the total system in which they will be working.

The third training segment is the in-service training program which occurs following the pre-service training session. The purpose of the in-service training program is to assure that each home visitor reaches criteria on each competency objective. In-service training experiences may include individual sessions conducted by the specialist with the home visitor, part-day or full day sessions with several home visitors, or in-service workshops at a demonstration site with all home visitors present.

Project Cost

The following budget (Figure 1) is a projected cost analysis. It is computed on the direct service delivery charge of the Project Sunrise Model for the period beginning May 1, 1979 and ending April 30, 1980. This budget does not reflect the cost of administrative personnel typically in place within the replicating district. The budget does present anticipated expenditures for a school district incorporating the Project Sunrise Model into an existing special education program.

Paraprofessional home visitors were hired at $5.00 per hour. Because the position(s) was part-time, less than 20 hours per week, fringe benefits were negated. Travel time was not paid although mileage was reimbursed at 18.5 cents per mile. Per diem was reimbursed at the rate of $12.00 per day.

Figure 1. Projected Cost Analysis for Project Sunrise Model
May . . 1979 - April 30, 1980

BUDGET	
Personnel	$ 7,765.00
TOTAL FTE 2.0	
Fringe Benefits	-0-
Travel	3,508.00
Per Diem	300.00
Materials and Supplies	500.00
Contractual Services	500.00
Communications (telephone, postage)	240.00
Paraprofessional Training Program	500.00
Indirect costs (at a rate of 8%)	1,065.00
TOTAL:	$14,378.00
Cost per child per 12 month period (average 23 children per month)	$625.00

Discussion of Cost Effectiveness

From the period of July 1, 1979 - March 1, 1980, an average of 22 families representing an average of 23 children were directly served by the project per month. Cost per child, utilizing a home visitor, was $468.00 for the nine month period. This figure reflects direct service costs which include $10.00 per home visit, per diem and mileage at 18.5 cents per mile. Additional costs are outlined in the budget. It is anticipated such costs would be minimal when replicated within a school district.

Based upon child progress data, parent and home visitor evaluation and service delivery costs per child, the investigators have concluded that the Project Sunrise Model is an effective service delivery system for use in rural, isolated areas similar to Montana.

Graph A presents an overview of child progress data collected on 15 children between the ages of birth and five years.

The Alpern-Boll Developmental Profile was administered as a pre/post measure of growth across five curriculum areas (i.e., physical, self-help, social, academic, and communication). The child's functional age for each curriculum area, as determined by the Alpern-Boll, was then divided by the child's chronological age to determine individual rate of growth at the time of the pre-testing. Following a mean intervention period of nine months, the Alpern-Boll was administered as a post measure of individual growth in the five areas. Pre and post growth rates were then compared.

Post intervention scores showed an average gain of 16.8 points above the anticipated growth rate. This figure represents a growth rate increase on the Alpern-Boll of 1) physical age 24%; 2) self-help age 10%; 3) social age 17%; 4) academic age 37%; and 5) communication age 22%. At a rate of $468.00 per child per nine months of intervention calculated cost per growth point gain above the anticipated rate of growth was $28.00.

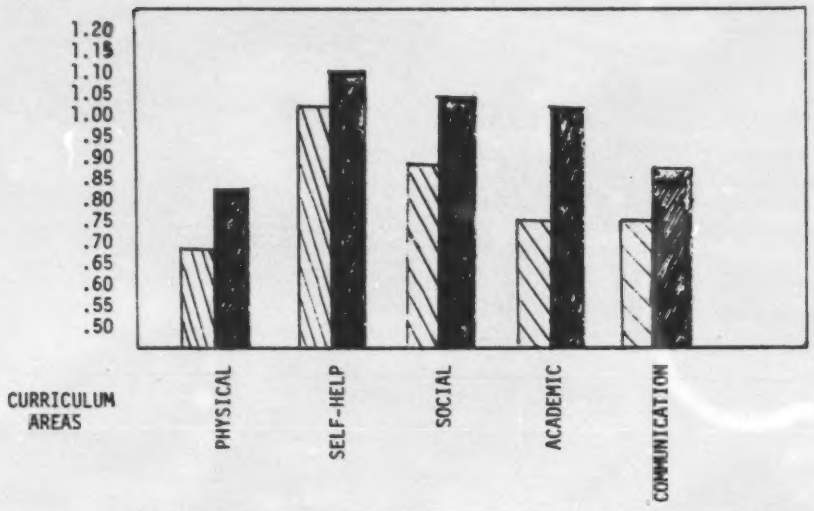
A random sampling of Montana school districts placed the average cost of special education for the same period at $2,500.00 per school age child. Using the figure of $2,500.00, cost of raising the growth rate one point soared to $145.00, more than five times the cost of the Sunrise early intervention program. This comparison is depicted in Graph B.

Granted, this study compares preschool service delivery cost to elementary service delivery cost, but the implications cannot be overlooked. It is widely recognized that the first few years of a child's life are instrumental in helping the child reach his potential. Many specialists in the field believe as much as 80% of the intellect is formed before a child goes to school. To initiate educational efforts at the age of four or five may be far too late to have the greatest impact. For too long education has proceeded in myopic bliss. Our educational system must adopt a preventative role as well as that of remediation.

GRAPH A

Comparison of pre-intervention growth rate to post-intervention growth rate in five curriculum areas using the Alpern-Boll Developmental Profile

N=15



KEY:

ANNUAL GROWTH RATE PRIOR TO INTERVENTION

ACTUAL GROWTH RATE FOLLOWING A MEAN 9 MONTH INTERVENTION PERIOD

GRAPH B

Cost comparison for each percentage point gained beyond anticipated rate of growth in the basic curriculum areas over a 9 month intervention period

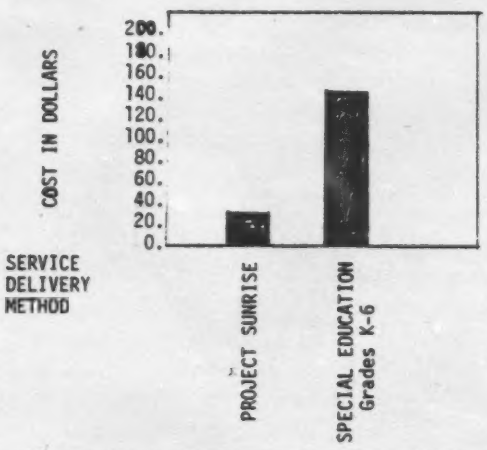


FIGURE 1

NON-CONSUMABLE EXPENDITURES

CAMS	$46.20	ASSESSMENT KIT	$30.00
UPAS	15.00	DDST	48.00
ALPERN-BOLL	15.00	CIP	75.00

For further information contact:

Dr. Ronald P. Sexton
Institute for Habilitative Services
Eastern Montana College
Billings, Montana 59101

APPENDIX

The Macomb 0-3 Regional Project
Dr. Patricia L. Hutinger
27 Horrabin Hall
Western Illinois University
Macomb, Illinois 61455

The HCEEP Rural Network is gathering contributions for a "State of the Art" monograph on cost effective delivery strategies. The monograph will describe several rural projects, presenting cost information, as well as program descriptions. It will be the second in a set of cost analysis monographs.

We feel that such a monograph can make an important contribution to sharing what we have learned. It will, of course, identify cost effective delivery strategies in serving young handicapped in rural areas. It will also show us (the HCEEP Rural Network), and others, the variety of ways children are being served, and perhaps, some common strands across service delivery strategies.

A common format for presenting each project's contribution has been designed. An outline of that format is enclosed with this letter. Please review the format and consider whether or not you would like to contribute to this monograph.

Ask yourself these questions:

1. Is my project's service delivery model cost effective, i.e., are the costs per child reasonable and affordable for the types of children being served?
2. Can I describe my project using the outline enclosed?
3. Do I have the cost data requested in the outline, or can I develop it?
4. Am I willing to invest the time to write my contribution?

If you answered yes to all of the above, then send back the form below and we will be in touch with you by telephone to discuss your contribution.

Many thanks for your support of the HCEEP Rural Network.

Sincerely,

Talbot L. Black
Associate Director
TADS

Patricia Hutinger
Project Director
Professor, Early Childhood

Yes, I am interested in contributing to the Rural Network's Monograph on Cost Analysis.

Name_____

Project's Name_____

Address_____

_____

Phone Number_____

39

The Macomb 0-3 Regional Project
Dr. Patricia L. Hutinger
27 Horrabin Hall
Western Illinois University
Macomb, Illinois 61455

Outline for a Contribution to
the HCEEP Rural Network Monograph:
Cost Effective Delivery Strategies in Rural Areas

Write a five to seven page narrative description of your project and its costs, following the outline below:

I. Description of Your Project

A. The rural setting for your project: describe the geographic, cultural, and economic characteristics, plus any special or unique features.

B. Your project's agency: identify the type of agency that your project works under (e.g., LEA, University, private, non-profit, etc.), and describe how your project fits into the overall mission of the agency.

C. The children/families being served: give the number of children/families served. Characterize the children by age range, type of handicaps (if appropriate), and any other factors or criteria that are important in understanding the children you serve. Describe any relevant family characteristic, such as socio-economic status, age of parents, extended family patterns, etc.

D. Staff: identify your staff positions by title. Give a brief description of staff roles and functional relationships. State the amount of time each staff person works for the project (full time, half time, 10% time). Give the important qualifications for your key staff positions. If appropriate, identify staff that are not paid by your project, but contribute essential services (e.g., PT, OT, etc.)

E. Your project's delivery strategy: write a description of how your project serves children/families in your community. Organize this section in whatever way works best for you, but include the following:

1. Where children/families are served (in the home, at a center, in a classroom, etc.).

2. How often children are seen (every day, once a week, etc.).

3. How many months out of the year your project operates.

4. How parents are involved in the project.

5. What curriculum approach/materials your project uses.

6. Any community services you provide (screening, assessment, training).

7. Any special or unique features of your service delivery model.

8. Basic assumptions/theoretical base (if appropriate).

F. Benefits: describe briefly the benefits your project provides to the children and families served. Include child progress data, if appropriate, but also describe any other benefits (direct or indirect) that are related to the work of your project.

II. Costs of Your Project

A. Total Budget: The following budget format represents a simple and straightforward presentation of the direct costs of your service delivery program. If you need help displaying your costs in this format, contact Patti Hutinger (309/298-1634) or Tal Black (919/967-9221) to discuss how to adjust the format. We recommend that you not include your model development and outreach costs in these figures, if you can separate them from your budget. The costs shown here should reflect your direct service and administrative costs only:

Personnel (Salaries and Wages)	_____
TOTAL FTE _____	
Fringe Benefits	_____
Travel	_____
Materials and Supplies	_____
Contractual Services	_____
Communications (telephone, postage)	_____
Indirect costs (overhead)	_____
Give Rate _____	
Other (Explain)	_____
Total	_____
Cost per child/per year	_____

B. In-Kind Support: Your project may receive support that is essential to its operation, but your project doesn't actually pay for it, for example: space, utilities, volunteer services, services/consultants provided by other agencies, etc. If these in-kind contributions are essential to your service delivery strategy, identify each one and describe what is provided. If possible, estimate what it would cost if you had to pay for the support.

III. Discussion of Cost Effectiveness

In this section, you may identify and describe the key factors in your service delivery strategy that you think makes it cost effective. "Cost effective" means reasonable or affordable. It is not an attempt to relate costs to child/family progress or benefits.

IV. Other Information on Your Project

Indicate how the reader can receive more information about your project. Include the name, address, and phone number of a contact person.

About the HCEEP Rural Network

The Handicapped Children's Early Education Program (HCEEP) Rural Network is an association of professionals representing educational programs for young handicapped children in rural communities. Members are drawn primarily from projects supported by the HCEEP, Office of Special Education, Department of Education. Formed in 1978, the Rural Network undertook to provide a voice for rural America's young handicapped children and their families. The network aimed to increase educational opportunities for this population through the accomplishment of a variety of activities. Participating projects also intended to enhance their own effectiveness in providing educational and supportive services in rural areas. For further information, contact:

Harris Gabel
P.O. Box 151
Peabody College of Vanderbilt University
Nashville, Tennessee 37203

or

Patricia Hutinger
Outreach: Macomb 0-3 Regional Project
27 Horrabin Hall
Western Illinois University
Macomb, Illinois 61455

or

Corinne Garland
14942 Bramblewood
Houston, Texas 77079

Additional copies of this monograph may be secured by sending $3.00 to cover cost of production and mailing to:

Rural Network
College of Education
Room 27, Horrabin Hall
Western Illinois University
Macomb, Illinois 61455

Price subject to change without notice. 5/81-60010281

Topics for the first series of Rural Network Monographs include:

- An Overview of Initial Survey Results
- Influencing Decision Makers
- Cost Analysis
- Parent Involvement
- Transportation
- Interagency Coordination
- Recruiting Staff
- Securing Funds
- Service Delivery Models